A large regional health payer accelerated data ingestion, enabling faster insights in multiple functional areas.

SNAPSHOT

Industry & Region
Healthcare, USA

Project Highlights
A large regional health payer leveraged an intelligent cloud-native data platform to unify data from standard and new-age data sources. The enhanced ingestion framework accelerated the rate of data ingestion, enabling faster data-driven insights and decision making

Benefits

Enhanced insights from expanded data sources enabled an increase in the prospect base

Highly targeted social determinants data improved the prospect outreach program

Additional insights from targeted campaigns increased membership

Ability to zero in on insights helped reduce fraud, waste and abuse

Data platform developed the foundation for more advanced analytics

Technology Stack
- Storage: AWS S3 (Parquet and JSON files)
- Data Lake: Athena (files stored on S3)
- Data Exploration: Athena, Jupyter Notebooks, client tools
- Metadata Catalog: AWS Glue
- Auditing & Logging: AWS Logging, CloudTrail, QuickSight

CLIENT OVERVIEW

Almost a century old, this regional health payer is committed to empowering its members and providing superior health insurance at an affordable price. Their offerings include round-the-clock nurse support, diverse care management, and preventative programs to support members/patients.

BUSINESS CHALLENGE

The health payer possessed an immense volume of data and information assets collected over decades and across a multitude of software and sources that ranged from legacy mainframes to traditional data warehouses. As a result of these inflexible and diverse data source structures, the health payer suffered from operational inefficiencies, lacked data governance, and struggled to adapt to new business models, incurring significant costs in the process. Moreover, functional information management resulted in point solutions that added to the payer's technology debt. Such information silos also made it difficult to access data, gain insights, and monetize information to capture key market opportunities and stay competitive.

Given the complexity of data sources, variety of data formats, and overall data incompleteness, a key challenge for the health payer was ingesting data to unify longitudinal member information.

SOLUTION OFFERED

The payer selected ValueMomentum as their data ingestion partner based on the recommendation of their subsidiaries, as well as ValueMomentum's experience and deep expertise in building and maintaining modern data ingestion pipelines.

In the initial stage, the health payer worked with ValueMomentum to consolidate and prioritize the data sources based on the importance of the data to the business requirements. The project was then divided into multiple workstreams (Ingestion, Distribution, Data Mastering, and Data Operations), with data ingestion as a key focus area. Then, a robust and configurable ingestion pipeline architecture was proposed that would utilize cutting-edge cloud tools and components to support ingestion of batch and near real-time data.

Leveraging ValueMomentum's expertise, the health payer developed a fast-moving data ingestion pipeline that was capable of ingesting any identified source with speed of up to 10x faster. The solution also included automated error logging and reporting, trend analytics, and audit-balance-control ensuring near-zero data loss. The resulting pipeline supports SCD Type 2 with row versioning, and also unifies/masters data from multiple sources for the same functional area (e.g., Membership, Claims). Moreover, the pipeline enhances existing accelerators to retrofit business requirements; ingests data from diverse sources into a unified repository; validates data ingestion and unification; and releases the data for downstream usage.

Overall, the resulting data ingestion pipeline aligns to and supports operational execution of the payer's enterprise governance processes to ensure appropriate unification of subject area information for downstream usage.

> The health payer was able to reach its primary goal of enhancing the quality and rate of insights from their data to improve decision-making. In addition to significantly reducing their technology debt and enabling faster insights, more accurate outcomes and improved regulatory reporting, this project has also set the stage for the advanced analytics necessary to succeed in the digital era.

VALUE DELIVERED

By establishing a robust ingestion pipeline and a unified data repository, the health payer was able to eliminate redundant data pipelines, cut down on data storage and maintenance costs, and become more responsive to changing business models. Moreover, the health payer is now able to seamlessly ingest disparate data sources with minimal data loss, as the data ingestion pipeline enables data unification across digital and legacy data sources.

By working closely with ValueMomentum and data partners, the health payer was able to achieve data completeness through smart relay of gaps in data and enriched data on the basis of derivation across similar sources. The success of data unification resulted in a single, enterprise-level repository across subject areas.

Furthermore, data-driven insights opened up by the project ultimately enabled the health payer to improve customer experiences and better tailor their products and services to the needs of their members. The health payer was able to improve its tele-health efficiency by analyzing how their members interacted with the Member Portal and Mobile Applications. Insights from social data also enabled the health payer to improve the operational efficiencies of the community health division.

Most of all, the health payer was able to reach its primary goal of enhancing the quality and rate of insights from their data to improve decision-making. In addition to significantly reducing their technology debt and enabling faster insights, more accurate outcomes and improved regulatory reporting, this project has also set the stage for the advanced analytics necessary to succeed in the digital era.